REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-35 are presently active. Claims 31-35 have been presently amended. No new matter was added.

In the outstanding Office Action, Claims 1, 6-8, 11, 14, 19-21, 26-28, and 30-35 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tse (U.S. Pat. No. 6,198,845) in view of Koga et al (U.S. Pat. No. 5,388,167). Claims 2-3 and 15-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tse and Koga et al in view of Shirasawa (U.S. Pat. No. 5,689,590). Claims 4-5, 9-10, 17-18, 22-23, and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tse and Koga et al in view of Kamo (U.S. Pat. No. 5,465,160). Claims 12-13 and 24-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tse and Koga et al in view of Mortimore (U.S. Pat. No. 5,740,428).

Claim 1, as previously presented, defines a photoelectric conversion unit which scans a document and supplies image data of the scanned document, a background detecting unit which detects a background level of the image data so as to produce original background level value data that is separate from and not part of the image data and indicative of the background level, an image processing unit which applies one or more types of image processing to the image data, and applies image processing identical to the one or more types of image processing to the original background level value to produce modified background level value data, and a background removal unit which removes background noise from the image processed data according to a generated threshold that is derived from the modified background level value data.

Thus, the claimed invention determines *original background level value data* that is

separate from and not part of the image data and indicative of the background level, *applies image processing* to the background level data *to produce a modified background level data*, and removes background noise based on *a threshold derived from the modified background level value data*. Hence, the present invention utilizes a threshold derived from modified background level data (i.e., derived from background data separate from the original image data and that has been subject to the same image processing as the image data).

The Advisory Action makes clear that the Office considers Tse to teach applying identical processing to both original background level values and image data. The outstanding Office Action asserts that Tse "applies image processing identical to said one or more types of image processing to the original background level (figure 10c and column 7, lines 42-65 of Tse) to produce modified background level value data (column 5, lines 26-34)."

Yet, column 7, lines 42-65, of Tse teach adjusting a grey-level value of a pixel according to *the background grey level* and *the dynamic rage of the scanning system*. Such processing constitutes applying processing to the image data based on the background grey level, not applying image processing to the background grey level. This section of Tse does not disclose or suggest image processing the background value to produce a modified background level upon which a threshold for background noise is determined.

Similarly, column 5, lines 26-34, of Tse relied on in the Office Action discloses generating and compressing a histogram of the distribution of various gray levels within a scanned image. An average background grey-level is determined based on for example the distribution of grey levels in the mid range of the histogram. See equation 10 of Tse. This histogram data represents data taken on the original image in order to determine an appropriate "gray-level white value." This section of Tse does not disclose or suggest image processing the background value to produce a modified background level upon which a threshold for background noise is determined.

Hence, in Tse, it is a background level value that is used to image process the original image data. There is no disclosure in Tse of image processing to the background level value using the same processing as used for the image data, as defined in the independent claims.

Furthermore, the deficiencies of Tse are not overcome by Koga et al. The Advisory Action relies on Koga et al's Figures 2A-2D and Koga et al's disclosure at column 10 of the transmission of deshaded and shaded images upon which to assert that Koga et al's shaded portion of the image is a background portion transmitted separately from the rest of the image. Yet, even if the shaded portion in Koga et al's Figures 2A-2D (i.e., portions 208a, 208b, and 208c) were to be considered background data, there is no disclosure in Koga et al that this data undergoes the same processing as the image data. Instead, Koga et al disclose at col. 8, lines 30-46, that the "synthetic shading" (i.e., a processed shading value) may or may not be the same as the shading 208a, 208b, and 208c. Clearly, the image data processing in Koga et al would not be selected to be one of the original background shading values, as applying such image processing to the image data would erase the image. Hence, the synthetic shading in Koga et al is not the same processing applied to the image data in Koga et al.

Thus, like Tse, Koga et al fail to disclose or suggest applying image processing identical to the one or more types of image processing applied to the image data to the original background level value to produce modified background level value data, as defined in the independent claims.

Accordingly, for these reasons, Applicant submits that, independent Claims 1, 12, 14, 24, 26, 27, and 30 (and the claims dependent therefrom) patentably define over Tse and Koga et al.

Moreover, presently amended Claims 31-35 define appending, *in a same data file for subsequent processing with the image data*, the original background level value data to the image data *in a part of the data file concatenated from the image data*. Support for this

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amendment is shown in Applicant's Figure 6. Since <u>Koga et al</u> transmit deshaded and shaded images, these images would exits and be transmitted in separate data files.

Hence, for their dependence on patentable independent claims and for the art references not showing the appending in the same file with image data original background level value data in a part of the data file concatenated from the image data, Claims 31-35 are likewise believed to patentably define over <u>Tse</u> and <u>Koga et al</u>.

Consequently, in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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